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ABSTRACT

In order to develop an ecological theory of teaching, the classroom must be viewed as a sociological unit. The unit of interest was the teacher-student learning group. The basic question explored was: What is the relationship between human interactions and the physical and social contexts of the group? Teams of scholars met in seminars, each member bringing the concepts and perspectives of his respective discipline or area of inquiry. In this "bridging report" two researchers combine different approaches to contribute to an ecological theory of teaching. One brought to the study experience and knowledge about research on teaching, and observational data obtained in natural classroom settings. The primary emphasis of this researcher was teacher behavior. The second brought a sociolinguistic and sociological perspective to the discipline. Recommendations for areas of future inquiry are made. (JD)

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Ecological Theory of Teaching

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Far West Laboratory for
Educational Research and Development

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BRIDGING REPORT 2

Bridging the Research of

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BRIDGING REPORT 2

Introduction

This is one of a series of reports by the Far West Laboratory for Educational Research and Development (FWL) concerned with developing an ecological theory of teaching. Under funding by the National Institute of Education, the project has been underway since December 1977 and is projected to continue contingent upon funding from NIE.

The uniqueness of the program lies in four undergirding assumptions. It is proposed that by attending to each, educational R&D needs which to date have received little attention will be accommodated. These are:

- The need to develop a theory which *views and explains classroom teaching and learning as sociological in nature.* This contrasts with and adds to current theories which are primarily psychologically-based.
- The need to develop a theory that it is *grounded in and emerges from the realities of ongoing classroom life,* incorporating teachers' understandings of their own worlds. To date, theories about schooling have been based for the most part on explanatory models that are derived from other settings, e.g., diagnosis and prescription (from medicine), input-output (from industry), PPBS (from the military), etc.
- The need to apply and capitalize upon the perspectives of multiple appropriate social sciences in order to understand more fully classroom life. Psychology has been the dominant discipline in educational R&D. *A multidisciplinary approach*

will add the unique and diverse perspectives of other fields, e.g., human ethology, sociology, environmental social-psychology, anthropology, human ecology, etc. to the research efforts.

- The need to attend to and apply research methodologies appropriate to inquiring into specific questions while maintaining high standards of excellence. *Methodologies drawn from the disciplines within the social sciences cited above will add to current research repertoires,* thus making possible selection from more than a single paradigm for inquiry.

To carry out this program, four long-range goals have been proposed. These are:

(1) To develop a theory that approaches and explains what goes on in teacher-student learning groups from an ecological perspective. Such a perspective goes beyond the teacher-single student dyadic paradigm pervasive in most current educational research. In addition, it attends to the myriad of complex variables that combine to explain *how human interactions shape and are shaped by the physical and social context of the class unit (teacher-student learning group).*

(2) To examine, modify, and/or create *research methodology that accommodates a multivariable, multidimensional, multiperspectival theory and makes possible inquiring into its operationalization in naturalistic settings.* In particular, such methodology must serve to capture the interrelationships among these variables while maintaining the integrity of ongoing classroom life.

(3) To survey, adapt and/or generate *training/development strategies that engage teachers, students and relevant others in applying an ecological perspective to classroom teaching and learning.* Traditionally, teacher training has been based primarily upon psychological theories of how individuals learn. It is anticipated that training/development strategies that focus instead on the sociological nature of human interactions while attending to the total ecology of the classroom will be useful.

(4) To test the theory by conducting a *restructuring experiment in nature.* Such an experiment would (a) implement in the natural setting of a school the teaching/learning strategies which build from the theory, and (b) study their effects by applying research methodologies which will have been developed concurrent with theory development.

To guide the effort, a Seminar of Scholars was organized. Composed of scholars from disciplines not usual to the educational research enterprise as well as those engaged in it, the Seminar serves both to inform theory development and to review and critique ongoing project activities.

At the initial meeting in San Francisco in May, 1978 the seminar participants reviewed reactions to a draft document which presented working definitions of those theoretical constructs proposed by the principal investigators as critical parameters for theory development. (Prior to this meeting, the document had been reviewed and critiqued by eleven experts with diverse perspectives, including members of the seminar.) From these deliberations emerged a consensus that the unit of interest for anchoring the theory is

how human interactions shape and are shaped by the physical and social contexts of the teacher-student learning group. To explore how elements and interactions among elements contributory to understanding and describing how such a unit of analysis might be identified or generated, it was recommended that, as its next step, the FWL staff undertake a series of *bridging activities*.

Bridging activities are designed to bring together two or more scholars with diverse perspectives in order to provide opportunities to create intellectual *bridges* between the concepts and perspectives of their respective disciplines or areas of inquiry. As participants in the activity, scholars are asked:

(a) What does your own research, as well as the research knowledge of your discipline, have to offer an ecological theory of teaching in terms of findings, concepts, or methodology?

(b) What further information is required and what additional methodological concerns need to be addressed to enable your own research to be considered *ecological* according to the working criteria established by the Seminar of Scholars?

(c) In combination, what do your areas of research suggest as important variables and combinations of variables to consider in building the theory? What do the combined fields suggest regarding methodological issues and procedures to be considered in designing the inquiry strategies to be used in building a "grounded" theory?

FWL investigators participate in these bridging discussions and serve as facilitators and recorders. Following each session, they draft a document which reflects the outcomes of the bridging session. This document is read

and revised by the bridging participants, and, as appropriate, additional statements are included. The final product is exemplified in this report, one of a number completed or in process of completion.

The experience of bridging the ideas of two or more scholars has proven to be immeasurably valuable to the ongoing development of an ecological theory of teaching. Bridging activities provide an exciting arena for interaction among persons who otherwise might not juxtapose their knowledge for purposes of systematic inquiry. The result of their interaction delineates variables and raises questions for further inquiry which in themselves inform theory development.

A report follows of the knowledge, insights, and recommendations obtained through one of the bridging activities. The purposes of and participants in this particular activity are presented. The findings that emerged from the deliberations are reported. This latter discussion includes three areas of interest: (1) a review of the contributions to an ecological theory of teaching of each research base; (2) a discussion of areas of inquiry to be pursued in order to build an ecological theory of teaching that is grounded in the realities of the teacher-student learning group based on the combined perspectives of the two researchers; and (3) methodological concerns and procedures that emerge from and support the constructs presented in the previous discussions.

Purpose and Participants

As noted above, the May 1978 meeting of the Seminar of Scholars proposed that scholars from varying disciplines be brought together in "bridging groups" to explore the following question:

How human interactions shape and are shaped by the physical and social context of the teacher-student learning group.

The Seminar of Scholars felt that this multi-disciplinary exploration would further the theoretical elaboration of concepts and variables related to this question in order to move toward the development of an ecological theory of teaching.

To this end, a bridging team was formed composed of Dr. Carolyn Evertson, Research and Development Center for Teacher Education, University of Texas, Austin, and Dr. Hugh D. Mehan, University of California, San Diego. William J. Tikunoff and Beatrice A. Ward, Far West Laboratory, also served as participants and facilitators.

Dr. Evertson brought to the discussion extensive experience in, knowledge about, and data regarding research on teaching. For the most part, the data base upon which Dr. Evertson's contributions build consists of observational data obtained in natural classroom settings. These include both categorical data delimited by a prespecified coding system and narrative descriptive data generated from extensive, in-setting observer notes. Teacher behavior is emphasized in the research although some student responses to teacher acts are coded and described. Data from three major studies were referenced by Dr. Evertson. These include a longitudinal, two-year study of primary level classrooms, a study of junior high school mathematics and English classrooms, and a beginning of school study conducted at the third grade level. Throughout her research, attention is given to understanding and identifying "what makes for effective teaching," based on specified criteria.

Dr. Mehan brought a sociolinguistic and sociological perspective to the discussion. In particular, his contributions centered around his interest in social interaction and ethno-methodology building upon the work of Cicourel, Sacks and Garfinkel. The interconnectedness of persons, actions, events, etc.

are of concern in his research. Methodologically, he stresses the importance of gathering data in a naturally occurring form. The structure of interaction (notably discourse) is analyzed. Findings from two studies served as the primary sources for Dr. Mehan's comments. One study investigated students' participation in shaping and interpreting test-taking situations. In the second study, discourse was observed, recorded, and analyzed as it occurred in a classroom over time. In both studies videotaped recordings were made of multiple instances of the interactions of interest. Thus, it can be said that systematic, as compared to anecodotal, data collection procedures were used.

Contributions to an Ecological Theory of Teaching

Given our interest in determining how human interactions shape and are shaped by the physical and social context of the teacher-student learning group, Dr. Evertson's work suggests five areas of interest for informing an ecological theory of teaching. A discussion of each follows.

- Students control more of the interaction in the classroom than researchers previously thought was the case, particularly at the junior high level. It is essential to investigate the processes by which students shape both interactions and the environment. Much research on teaching has focussed exclusively on the teacher (i.e., studies of questioning, use of verbal praise, planning) with the unquestioned assumption that the teacher alone is primarily responsible for what happens in classrooms. Equal attention needs to be given to students and students' actions and their role in shaping the flow of events.

- Multiple levels of concern are evidenced by participants in a school setting. This is particularly apparent at the beginning of the school year. Fuller (1969) developed a theoretical framework based on teacher concerns, moving from concerns of self and safety, to concerns about student approval, to more altruistic concerns about providing the best instruction to students. A similar type of hierarchy could be applied to students' needs. The more effective classroom managers try to address these concerns by providing or allocating space and "things" (safety, security); providing rules and boundaries (using the environment); and planning and delivering the content carefully (attending to student learning). If these initial concerns are not taken care of, students then may begin to find other means of bringing about resolutions. This may take the form of "taking over" and shaping the environment around relationships with peers only, and the result may or may not be productive in terms of the academic goals of the group. Evidence points toward the efficacy of a stage-setting phase at the beginning of school which provides the necessary foundation for learning to take place.
- Much research on teaching utilizes coding systems or other ways of counting behaviors. These systems are useful if they are used in conjunction with other means of gathering information about the *intensity* of certain actions. Many coding systems when used in a variety of settings provide for the counting of events which do not occur or which seldom occur. These "empty

cells" may contribute important information to an ecological theory of teaching. The use of descriptive data to support coded data has been fruitful. It adds information of another kind and provides a second look through a different lens. Similarly, research on teaching that has been conducted from the educational psychology perspective has identified a number of variables which do not appear to make a difference in certain contexts. These need to be reviewed to determine whether the lack of a statistical difference will maintain when the perspectives of other disciplines are applied.

- Constraints on the teacher warrant careful consideration. Little work has been done on the nature of settings in which teachers must do their jobs, the support systems or lack of them, and the changing roles and expectations which teachers must accommodate to. This is mentioned here in the broadest sense only. By this we do not mean just the standard comparisons of the open vs. traditional classrooms, but the emerging legal constraints, the effects of PL 94-142, and the push of back-to-basics. These phenomena have been studied but not in terms of the effects they have on the classroom.
- Use of seatwork--the functions it serves, how students adapt to it, its relationship with psychomotor development, etc.--is an untouched area at both the elementary and junior high school level. Further, students' perceptions regarding the purpose of seatwork as it relates to their role in the classroom warrant investigation.

Adding to the above information, Dr. Mehan's research points out six areas of interest. These are: (1) figure-ground issues, (2) characteristics of teacher-student learning group data, (3) participation structures, (4) organizational schemata of the teacher-student learning group, (5) role of peer tutors, and (6) outcomes. A discussion of each follows.

Figure-ground issues. Lee Shulman has suggested that within a groups life in general, and in educational settings in particular, the need for pattern and consistency is apparent. At the same time (especially in the classroom), some excitement and variation is needed to maintain participant interest and enthusiasm. These represent *figure-ground* problems for the educator. The predictability of daily routine provides the *grounding* for teacher-student learning group activities; enrichment and enlightenment represent the *figural* facets of group life. A teacher is accountable for consistency in procedures and time for instruction, but he or she also needs to be aware of boredom and respond to it through enrichment activities, variation in routine, etc. One aspect of the figure-ground issue is the extent to which the teacher pulls students off *the ground* and deals with each as a unique and different *figure* rather than as part of a predictable group. To do this requires time for individual review and interaction. One implication of this is illustrated in the way teachers talk about students. Typically, when dealing with *real* students, teachers do not talk about real constructs. Rather they use general hypothetical statements, for example, "these students need nurturing so they should go in a particular group or classroom." On the other hand, when presented with data regarding hypothetical students, teachers will use the behavior of real students to exemplify and explain the hypothetical constructs.

Characteristics of teacher-student learning group data. Building upon the figure-ground issue, the study of teacher-student learning group life suggests that both the procedural and academic forms of group life must become operable if the group is to function effectively. If procedures are unstated, this may get in the way of the enactment and accomplishment of the academic functions of the group. Further, procedural-academic forms differ across groups. As a result, schooling provides experiences in multiple social systems across a student's years in school. In addition, a student's out-of-school experiences also may incorporate procedural and personal requirements that differ from those in school. Thus, students learn to function in groups that incorporate many different requirements and expectations relative to figure-ground issues. The similarity and diversity among these may contribute to a student's overall academic and social accomplishments and satisfaction.

Further, when studying group life, linear-causal relations do not make sense. The interconnectedness of constructive actions is apparent. Much of what occurs is reflexive in nature, e.g., a future act reflects back on and helps index the form and meaning of a previous act, while the meaning of a future act is indexed in terms of acts occurring in the past. Individuals in a group such as a teacher-student learning group do not behave in isolation. Behavior is context bound and varies from situation to situation. Therefore, statements about a student's performance that are generated from a single occurrence, event, or setting are not accurate representations of competence. Rather, data from group situations with a variety of structural arrangements are required. In addition, categories used to describe behavior, interactions, procedures, and processes should be derived from naturally occurring situations, rather than being imposed prior to observation of the group or being considered

out of the actual group context. To achieve these ends, data must be gathered continuously through time and must be in a form that offers the researcher (and others) an opportunity to return to an event for comparison, interpretation, etc., after it has occurred. In doing so, a researcher often is seeking correlates with, rather than demonstrations, of a particular theoretical position. Such a data analysis viewpoint encourages the building of *grounded* theory rather than the verification of hypothetical theory.

Participation structures. The concept of *participation structures* (originally proposed by Philips and currently being refined and extended by Mehan, Erickson, and others) is a promising way of looking at group life. This notion emerges from the sociolinguistic or functional approach to language. The functional or sociolinguistic conception contrasts with the linguistic or formal approach to language. Hymes and Gumperz (along with Shuy, Ferguson, Fillmore, Labov, Erwin-Tripp, Grimshaw, Cicourel) are usually associated with the sociolinguistic or functional approach to language, while Chomsky and his colleagues are associated with the linguistic or formal approach to language. Both approaches to language entertain the notion of competence. Competence defined by the linguist in the Chomsky tradition is that knowledge of language required to produce and interpret sentences that are well-formed (i.e., grammatical, phonological, and semantically appropriate). Competence defined by the sociolinguist in the Hymes tradition is that knowledge of language required to use language in actually occurring situations of discourse or conversation. The sociolinguist insists that sociolinguistic competence (or communicative competence) is more encompassing than purely linguistic competence, and that a theory of language must start with language-in-use in naturally occurring situations.

Organizational schemata of the teacher-student learning group. Participation structures, then, become a concept to collect many of the components of language use associated with (as the name implies) participating in discourse or conversation. When discourse is seen as an event in *real* time that is embedded in a social context, aspects such as the following become relevant for inclusion under this heading:

- starting up and closing down a conversation;
- if a conversation is already occurring--"getting into" it;
- taking turns;
- maintaining topical relevance;
- adopting one's style or code to the demands of the situation.*

Within a teacher-student learning group, participation structures require students to blend academic knowledge and interactional form. In many respects, this latter area shapes the culture of the classroom more than the academic requirements of schooling. For example, in order to be successful in achieving academic goals, a student needs to learn how to initiate interaction and how to identify the *seams* in a lesson so he or she can *get the floor* to obtain feedback, introduce new content, ask questions, etc.

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* This particular aspect many require more discussion: the idea is that a speaker-hearer of the language is seen to have a "repertoire of speech behavior" (Gumperz, 1972). Included in this repertoire are different ways of talking, content, etc. Different contexts are organized such that certain speech behavior is judged by participants as appropriate there, while other behavior is seen as inappropriate (talking loudly in church, for example). An aspect of effective participation in discourse, including, obviously, discourse in the teacher-student learning group is the adaptation of behavior to different contexts--knowing "when a context occurs" (Erickson & Schultz, 1977), and then producing behavior that is appropriate for that context. This way of talking about language implies an interrelationship between behavior and context and surface rules. This way of talking also implies that the language user constructs and employs "organizing principles" to make these connections.

Classroom rules provide a source for describing and understanding the participation structure(s) of a given teacher-student learning group. To understand a rule requires both a participant and an observer to consider (a) the surface features of the system, and (b) the underlying organizational principles. The underlying organizing principles are particularly important because rules typically are not clearly stated. They must be inferred retrospectively, i.e., a rule becomes operable only after a particular behavior or interaction is positively or negatively sanctioned from surface formulations of rules. Rules also are negotiable; they vary from situation to situation. This context bound, constantly changing, adaptive nature of rules implies that students in classrooms are constructing or employing *organizing principles* in order to interpret, follow, and understand them. Since these principles may not be in the surface formulations of the rules, the interactional work of rule interpretation may occur at a different level which may provide underlying or overarching superstructures (depending on the metaphor of analysis). Thus, to interpret and act upon the rule system in a teacher-student learning group, students need to acquire *framing* skills. These are skills that help them combine and organize diverse and disconnected sanctioning, etc., behaviors into a general underlying notion of procedural or academic expectations. Students' ability to utilize and differentiate between what Scribner has called theoretic reasoning (in which what is known about the *real* world in which a particular event occurs is suspended in favor of characteristics and principles given only in problems) and empiric reasoning (in which the real world aspects of a given event predominate) contributes to their success in framing and organizing the culture of the teacher-student learning group. Construction and use of these organizing principles or schemata are important aspects of students' cultural knowledge of the group.

Role of peer tutors. Unless specific barriers are established to prevent such interactions, students often serve as peer teachers for one another. Observations of student-to-student interaction in these situations provide opportunities for contrasting teacher-controlled and student-controlled participation structures and students' behavior within them, and amounts and types of cooperation that occur. Informal as well as formally-assigned peer teaching can be an important aspect of life in a teacher-student learning group. It warrants additional investigation.

Outcomes. From a sociolinguistic perspective, the outcomes of teacher-student learning group life cannot be imposed. Outcomes are based on collaborative decisions and negotiations. Participant opinions and judgments regarding expected outcomes serve as a viable data source for determining the effectiveness of teacher-student learning group life.

Future Areas of Inquiry

The aim of the future areas of inquiry that emerged from this bridging effort is to *describe what participants must know-to-do* in order to participate effectively in the teacher-student learning group context. Since it seems that the production of academic instruction is intertwined with the multiple aspects of participating in teacher-student learning group events, the notion of participation structures becomes a powerful tool. An important area for further inquiry, therefore, is the interconnectedness of academic activities (activity structures) and interactional activities (participation structures). In a similar manner, the continuity/discontinuity between such structures in out-of-school contexts, e.g., home or play, and school structures warrants investigation. Requirements for effective participation at school may not match the requirements at home. Possible modification in the school

environment to take advantage of *continuous* structures should be considered along with investigation of the effects of such continuity.

Such inquiry should be oriented toward the idea that people in environments (or contexts) are mutually adapting to each other and their surroundings. This means that in the contexts proposed for study (home, school, play, etc.) teachers *with* students, parents *with* children, children *with* children would be the focus, *not* teachers and students in isolation.

The topic of inquiry (following Goodenough) might be *cultural knowledge*--that which people must *know-to-do* in order to participate effectively in a society and to do so in a manner that is judged to be effective by the members of that society. This cultural knowledge is not *things-in-the-head* or *things-in-the-world* but *behavior that is constructed in the interaction of people.* Thus, the formulation of this topic includes the participants' perspectives insofar as the phenomenological validity of the inquiry is important. At the conclusion of such inquiry, one should be able to make statements about what teachers and students need to do to participate effectively in a teacher-student learning group and what children and their caregivers, e.g., parents, need to do to participate effectively in certain home and play contexts. In addition, complementary participation structures may be identified across various contexts for individual children and groups of children.

Research related to these areas of inquiry might include:

- study of students' behavior in terms of participation structures, activity structures, organizational schema, and other cultural knowledge before entering school, and in out-of-school as well as in-school activities. Such inquiry would identify continuity/discontinuity among settings and the

relationship of these states with effectiveness of students in terms of both procedural and academic outcomes.

- study of teachers' expectations regarding the *ideal* student and the ideally functioning teacher-student learning group, their concepts regarding students' developmental ability, and the ways in which they organize and use their daily out-of-school life with particular attention to how this supports in-school functions. Relationships would be investigated among these teacher constructs, and the organization and forms of the teacher-student learning group, and the outcomes thereof.
- study of life in one, or more, teacher-student learning groups over at least a two year period. Such a study would inquire into the student and teacher conceptions and behaviors outlined above and include extensive observation of group life (possibly on an all day, every day basis) over an extended period of time. The purpose would be to determine the requirements for effective student participation at home, at school, and in other settings and to identify ways and means for capitalizing on what occurs in all settings such that students' attain their maximum potential academic and social growth.

The two year time period is proposed so that: (a) the same students' performance may be observed in different teacher-student learning groups and relationships among effective participation in home, out-of-school, and in-school groups may be studied given differing in-school contexts; (b) information may be obtained relative to the form assumed

by a teacher-student learning group when the same teacher but different students comprise the group; and (c) the relationship of teacher-student learning group form (whatever it is) to effective participation by students in school, at home and in other out-of-school contexts.

While the first two studies mentioned above might be conducted as separate efforts, the third must attend to the constructs contained in the first two and, in addition, obtain and investigate even more indepth information regarding teacher-student learning group life.

Figure 1 presents the topics of interest. It must be noted that the interactions and relationships among these topics both within and across settings are considered to be the most important areas for investigation.

In the out-of-school and home settings, information should be sought regarding (a) the organization and structure of the student's life; (b) what, if any, academic requirements exist; (c) what procedural requirements operate, e.g., how a student enters discussion, interacts with adults; and (d) the personal views of the student and various adults regarding expectations for and acceptance of the student and schooling.

Information to be obtained in the teacher-student learning group centers around the interactions among students and among the teacher and students. It also includes data regarding the underlying principles of classroom life such as the organization of activities, the type(s) of activity structures that are used, the participation structure(s) that apply, and the ways students' categorize, cope with, and manage these aspects of group life. The academic and social outcomes for students of participation in the teacher-student learning group also are of interest as are the consequences for students of various

FIGURE 1

Topics of Interest in
Future Inquiry as Proposed
by Mehan and Evertson

Out-of-school and Home	Teacher-Student Learning Group	Teacher
Interactions of student(s) with adults (parents and others)	Organization of activities that occur	Ideal student
Interaction of student(s) with student(s)	Organization of instruction; e.g., type of activity structure	Ideal instructional-social system
Organization of daily life	Pull-out experiences	Concepts of developing ability of student(s)
Acceptance and expectations held for student by adults and by student	Students' ways of categorizing, managing, coping with group life (academic and procedural) and resulting S↔S and S↔T interactions	Extent to which present teaching-learning group meets ideal
Acceptance and expectations held for schooling by adults and by student	Things students' need to know and do in order to engage in conversation, discussion and other instructional forms as a social entity (participation structures)	Use of external life in terms of organization of life, use of this life as creative place to obtain new information, time with other adults
	Time devoted to oral vs. silent, alone vs. participatory activities	

organizational structures particularly in terms of the extent to which these structures facilitate display of a student's knowledge and skill. In addition to nonparticipant observations, extensive participant (student and teacher) descriptions of, accounts of, and opinions about events are required.

Information to be obtained from the teacher stresses his or her views regarding the ideal student, the ideal teacher-student learning group, and students' developing abilities. Information should be sought regarding how students will be expected to behave as individuals and as members of the group in terms of both instructional and social goals and various combinations thereof. Information regarding the complementarity of the teacher's in-school and out-of-school life also should be obtained.

As a general rule, the inquiry should stress a wide range of behavior because behavior is manifested differently in different situations. As noted earlier, the academic and social outcomes to be measured should emerge from, be grounded in, the expectations of the participants. Effective performance as judged by other group members should be considered a viable performance (outcome) indicator. The degree to which students are comfortable in the various *cultures* also might serve as an outcome measure.

Methodological Concerns and Procedures

In order to obtain data regarding the behaviors, constructs, etc., discussed in the previous section, Dr. Evertson and Dr. Mehan indicated that a comparative or contrastive method of data collection is needed; thus, the recommendation that data be obtained regarding students' out-of-school life and in-school life over multiple (at least two) in-school experiences. This ideally would include participation in the life of two classrooms. At the elementary school level, such inquiry most likely will need to extend over

two school years since teacher-student learning groups generally are self-contained and remain so for an entire school year. At the secondary level, given the movement of students from group-to-group, comparative/contrastive data may be obtained within a single school year. At this upper level, it would be productive to study *students-in-transition*, i.e., students who are moving from elementary to junior high school or junior to senior high school. Such a study would provide data regarding differences, if any, in a student's behavior in varying school cultures. It also would focus upon the student's behavior in multiple teacher-student learning group cultures and in the various activity structures and participation structures operating in these settings. These data, then, might be compared/contrasted with those obtained in out-of-school settings. Inasmuch as the school culture may be as important as individual teacher-student learning group cultures at the secondary level, transition into junior or senior high school provides important and unique avenues for observing how a student recognizes and responds to the underlying principles of both the teacher-student learning group and the larger culture(s).

In carrying out such inquiry, several procedural guidelines were considered as critical to the success of the research. These include:

- Enough is known about classrooms to provide helpful constructs for inquiry and procedures for obtaining data regarding these variables. However, it is important to remember that constructs such as activity structure and participation structure are not seen as separate entities. They are *mutually influencing*.
- Much less is known about the structure and organization of interaction (including discourse or conversation) in the home context. It is likely that aspects of the participation

structure will be informative in this context. On the other hand, activity structures may not be directly transferable within the home.

- Any attempt to identify constructs should proceed *from the bottom up*--that is, from the data that are obtained--rather than top down, that is, from a theory that is imposed.
- Participants' conceptions or accounts are an important data source. They have empirical and mythical grounding in some combination. The purpose of such information is to help the researcher understand the *frame* or point of view of those in the environment. Determining how an individual's behavior is influenced by such conceptions is important.
- Accounts of behavior, context variables, etc., should be obtained at several points throughout the two year period. Whenever data are obtained, observations should be carried out in *all* the settings under study. This allows comparisons through time both within and across settings and comparisons across settings at each point. All day, every day, all year data would be ideal. Given that this is not possible, carefully selected points in the year(s) should be used as intensive data sources.
- It is important to enter the scene as early as possible, e.g., the first day of school and several weeks (or days) prior to school in out-of-school settings.
- It is important to collect as many accounts as possible of the variables of interest, e.g., using multiple types of

observations and other data collection procedures to obtain multiple interpretations regarding each variable, event, or interaction.

- Given an ideal situation, the inquiry would include many teacher-student learning groups at varying grade levels.
- While the argument that the observer should become a part of the scene is a compelling one in that it supports the acquisition of more complete and valid information, the variation among teacher-student learning groups also is compelling. The reason for recommending the *immersion* of the observer in the setting has to do with *trust*. Observational research requires that the subjects trust the researcher. It takes time to establish this trust with teachers, students, other adults. For this reason, it may be necessary to do indepth inquiry in a few teacher-student learning groups and with only a few students selected as those who will be observed in the out-of-school settings.

Other items that Dr. Evertson and Dr. Mehan noted as warranting consideration in the design include how pull-out or multiple adult teacher-student learning group situations will be handled and what and how the influences of seatwork will be determined.

Throughout, the research should build upon observation procedures that capture the multiple objects, behaviors, interactions among persons and persons and things, etc., that occur. Videotaped recordings of discourse and narrative descriptions of actions, dialogues, and settings may be obtained by nonparticipant observers. Interviews and self-report procedures also need

to be used to obtain information from the participants. As noted earlier, if findings are to grow out of the contexts rather than be imposed on them, whatever procedures are used, the researcher must be able to return to and reconstruct a given event, setting, and interaction, as it occurred after it has occurred so that reflexive acts can be considered when determining: (a) how persons, their actions, the environment, etc., shape what occurs; and (b) how these same elements influence the outcomes of life in a teacher-student learning group.

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